

Dodge 5.9L Fuel Pump Installation Tips



Perform a fuel system inspection prior to installation of a replacement high-pressure (HP) pump. If rust, contamination, or metal particles are found the fuel system must be cleaned including the tank, filter housing, supply lines, and the high-pressure system. **Failure to completely clean the entire fuel system can result in immediate or repeated short-term HP pump and injector failures.**

INSTALLATION TIPS

1. Use caution when working on the fuel system to prevent injury. The high-pressure side of the fuel system is pressurized up to 23,200 PSI. Make sure the engine is off, the high-pressure has bled down and the engine has cooled off prior to working on the fuel system.
2. DTech high-pressure pumps have tolerances measured in microns. It is important to work in a clean manner to prevent contamination of the fuel system to prevent premature failures. Clean the engine area around the fuel system prior to removing any fuel system components. Before assembly inspect each component for dirt, grease, or other contaminants and clean as necessary.
3. The Powertrain Control Module (PCM) should be updated to the latest calibration as part of the diagnostic and repair process.
4. Install a new fuel filter and do not fill it with fuel prior to installation.
5. Check the return back-pressure valve located in the injector return line connection banjo bolt located at the rear of the cylinder head for contamination; replace or clean as necessary.
6. Clean the gear housing pump pilot bore prior to installation of the HP pump.
7. Lubricate the HP pump mounting o-ring and the gear housing's pilot bore with clean engine oil.
8. Clean the pump drive gear and drive shaft at the machined tapers with brake cleaner or another evaporative style cleaner. The tapers must be absolutely dry and free of debris to ensure proper gear-to-shaft retention.
9. Align the HP pump drive shaft with the injection pump gear while mounting the pump onto the gear housing mounting flange.
10. Insure that the HP pump flange is flush with the gear housing mounting flange. Then hand-tighten the three pump mounting nuts. DO NOT pull the HP pump flange to the gear housing using the mounting nuts or damage the pump or gear housing may result.
11. Install the drive gear retaining washer and nut to the pump drive shaft. Hand-tighten then lightly tighten the HP pump drive shaft nut.
12. Torque the three pump mounting nuts to 18 ft-lb (24 N-m).
13. Perform a final torque of the HP pump drive shaft nut to 77 ft-lb (105 N-m).
14. Use a 3/8" drive ratchet to install the drive gear access cover. Then torque to 71 in-lb (8 N-m).
15. Install fuel return line from the HP pump to the fuel filter and tighten the banjo bolts to 18 ft-lb (24 N-m).
16. Install HP fuel line from the HP pump to the fuel rail. Tighten the line nuts to 27 ft-lb (37 N-m).

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12693 Old Virginia Road
Reno, NV 89521
800.648.4720

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PRODUCT INFORMATION

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17. Install the fuel line from the pump to the fuel filter housing and torque to 18 ft-lb (24 N-m).
18. Connect the Fuel Control Actuator (FCA) electrical connector.
19. Bleed the low-pressure fuel supply. Turn key to the CRANK position and quickly release key to the ON position before the engine starts. This will cause the electric supply pump to run for 25 seconds.
20. Crank the engine. If the engine does not start after 25 seconds stop cranking the engine. Turn the key to the OFF position for at least 10 seconds. Let the starter motor cool for two minutes. Repeat steps 19 and 20 as necessary until the engine starts.
21. Once the engine starts let it idle to bleed the remaining air from the system.
22. Check the fuel system for fuel or engine oil leaks.

Note: Installation of a high-pressure pump can cause an off idle knock on acceleration. If this occurs remove the pump and reposition the HP pump drive shaft by 30° in relation to the pump drive gear. If necessary reposition the drive shaft in 30° increments until the issue is resolved.

DIESEL FUEL PUMPS, INJECTORS AND ACCESSORIES

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